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Environmental Cybernetics:
Technology and the Perception of Remediated Space

A thesis
presented to
the faculty of the Department of Literature and Language
East Tennessee State University

In partial fulfillment
of the requirements for the degree
Master of Arts in English

by
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ABSTRACT

Environmental Cybernetics:

Technology and the Perception of Remediated Space

by

Lucas Gentry

Moby Dick, *House of Leaves*, and *Ex Machina* portray characters that rely on a form of technology to navigate their respective environments. As such, their settings are remediated spaces – spaces understood through their relationship with technology. The inhabitants of remediated spaces inherently resemble the cyborg as their perspectives fuse with machines in their understanding of space. Captain Ahab from *Moby Dick* must rely on his ivory leg and ship for mobility, often merging himself with the machine of the vessel. *House of Leaves* provides a space and family that exist exclusively within the confines of found footage, fusing technology and humanity through layers of remediation. *Ex Machina* illustrates a gynoid escaping an imprisoning facility, a machine called Ava that physically resembles a human. Using theorists such as Donna Haraway and Henri Lefebvre, this thesis explores connections between technology and space.

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CHAPTER 1: INTRODUCTION

Herman Melville's *Moby-Dick*, Mark Z. Danielewski's *House of Leaves*, and Alex Garland's *Ex Machina* all portray characters that rely on a form of technology to navigate their respective environments, both physically and conceptually. The settings are therefore remediated spaces, or spaces that are understood through their relationship with technology. The inhabitants of remediated spaces possess perspectives that fuse with machines in their understanding of space. Captain Ahab from *Moby-Dick* relies on his ivory leg for mobility, and often plants this leg in auger holes aboard the *Pequod* while commanding the ship, merging himself with the machine of the vessel. The *Pequod* also notably functions as a tool that Ahab and crew use to obtain sperm oil. *House of Leaves* provides the Navidson family's house, a space that exists exclusively within the confines of found footage, fusing technology and humanity through its layers of remediation. *Ex Machina* illustrates a gynoid, a machine called Ava that physically resembles a human, escaping an imprisoning facility. An entity fused with technology, Ava possesses a deeper connection with the machinery of her prison than her captors do by connecting with cameras throughout her environment.

As Captain Ahab and his crew, the Navidson family, and Ava use technological perspectives to spatially perceive and traverse their environments, they observe their settings from the liminality between the human and machine, leading to the construction of remediated space in these texts – spaces that rely on the amalgamation of human and cybernetic qualities to exist. In *Remediation: Understanding New Media*, Richard Grusin and David Jay Bolter define remediation as “the formal logic by which new media refashion prior media forms” (Grusin Bolter 273). Using Grusin and Bolter's definition, this project defines remediated space as environments that media refashions – spaces that technology (in a variety of forms) alters the

interpretation or navigation of. The environments that *Moby-Dick*, *House of Leaves*, and *Ex Machina* portray possess hybrid characteristics between technology and humanity that function as mental spaces as defined by Lefebvre; psychological constructions that technology enables subjects to perceive and navigate.

As constructions of space that are inherently hybrid structures and incorporate elements of both humanity and technology, facets of these environments derive from physical structures, aspects necessary to understanding their inversely inorganic aspects. In *The Poetics of Space*, Gaston Bachelard articulates symbolic significances contained within both the physical house and social constructions of the home, providing a framework crucial to understanding the physical aspects of space. In understanding space that is both organic and technological, conventional understandings of the house must be elucidated as well as perceptions of the home (a psychological and socially rendered construction). Bachelard also notably articulates space “a body of images that give mankind proofs or illusions of stability. We are constantly re-imagining its reality” (Bachelard 17). The technology inherent in the Navidson house, the *Pequod*, and the research facility that house Ava provides similar illusions of stability, allowing her to reimagine the space she inhabits. In *House of Leaves*, the slippage and overlap between the house and the home is vital in examining the organic and inorganic facets of the Navidsons’ residence. *Ex Machina*’s research facility that contains Ava functions as a conceptual home for her, though not in the form of a conventional house, a distinction that allows her, as a gynoid, a greater degree of agency than experienced by her human cohabitants. The *Pequod* in *Moby-Dick* functions as a similarly to Ava’s facility as a home in an unconventional physical form, though the *Pequod* also functions as a tool to navigate the ocean, providing yet another mixture of technological and physical space. Bachelard’s theoretical approach is crucial not only to explaining the

discrepancies between house and the home but also to space overall is crucial to understanding the hybrid environments within these texts, as he not only focuses on human perceptions of environmental surroundings but also theorizes on navigating space.

While Bachelard focuses on physical space, psychological or theoretical constructions of space are also crucial to understanding the environments of *Moby-Dick*, *House of Leaves*, and *Ex Machina*. In *The Production of Space*, Henri Lefebvre approaches understanding space from an abstract perspective that is almost purely theoretical, providing a psychological framework for perceptions of technology interaction with space. While Bachelard's theoretical framework is couched primarily in normative constructions of the house (with chapters in *The Poetics of Space* ranging from "Drawers, Chests, and Wardrobes," to "From Cellar to Garrett"), Lefebvre's distancing of spatial understanding from focusing solely on the physical provides a necessary backdrop to examining environments imbued with human and technological qualities; in their differentiation from both the organic and the normative, the environments of *House of Leaves*, *Ex Machina*, and *Moby-Dick* assume their hybrid characteristics. Bachelard's constructions of concrete space are pivotal in understanding the ensuing deviations throughout these texts that Lefebvre illuminates. Lefebvre claims that widespread definitions of space have shifted from merely geometric constructions of architecture to "a mental thing or mental place," arguing that the evolving definition of space "has exercised a fascination not only upon philosophers but also upon writers and linguists" and is now comprised of "literary space, ideological spaces, the space of the dream," and "psychoanalytic topologies" (Lefebvre 3). Lefebvre's departure from examining merely physical space links to the hybridity between organism and technology as he turns to conceptual and psychological constructs, enabling material space to in turn merge with abstract definitions of organic and technological hybridity. *The Production of Space* is

particularly concerned with the influences of the psychological or the imaginary in environmental understanding, providing conceptual parallels to underlying technological structures that also frame perceptions of space, from the cameras in *House of Leaves*, the systems that Ava interfaces with in *Ex Machina*, and the auger holes in which Captain Ahab plants his wooden leg in *Moby-Dick*.

Lefebvre's psychologically based constructions of the environment bridge the gap between Bachelard's physically rooted understanding of space and Donna Haraway's theoretical constructions of organic and technological hybridity in "A Cyborg Manifesto." Haraway claims that modern humans inherently possess qualities of hybridity, that humans are "chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centres structuring any possibility of historical transformation" (Haraway 2). The marriage between materiality and imagination is crucial to understanding the spatial cyborg. As the Navidsons in *House of Leaves* exist only as part of *The Navidson Record*, they form such a blend of the physical and the conceptual, human beings contained solely within the purported video footage that depicts them. *Ex Machina*'s Ava manipulates material space as she connects with the power system of the facility imprisoning her. Symbolic fusions of the organic and the machine recur throughout *Moby-Dick*, from the harpoon Ahab baptizes in the blood of his crewmen to the whale bones and teeth that adorn the *Pequod* itself.

Providing a literal illustration of technology remediating space as Ava controls informational flow, *Ex Machina* provides the most concrete examples of the theoretical frameworks supplied from Bachelard, Lefebvre, and Haraway. *Ex Machina* drives its narrative

with the experiences of Caleb, a computer scientist selected to spend a weekend with Nathan, the CEO of his employer company. Nathan soon reveals to Caleb a secret project he has been working on in the form of a gynoid named Ava. Ava is an entity that physically resembles a human being, a machine that Nathan's programming assigns a feminine identity. Throughout its narrative, *Ex Machina* shifts between Ava's warnings to Caleb and Nathan's commentary on his technological creation, deriving tension from the question of whose informational flow is more reliable by pivoting between the two perspectives. As the two modes of information arise for Caleb, the film presents viewers with a duality between the digital voice (in Ava) and the human voice (in Nathan). As Caleb relies on a fusion of human and technological voices to interpret the events unfolding in the environment around him, the space of Nathan's house begins to assume hybrid qualities, merging the lenses of Ava and Nathan into a singular perspective that is not fully human, yet not entirely digital, either. Caleb's understanding of *Ex Machina's* setting derives from a mix of the technological and the human. As such, Ava's system overloads are vital to the film's construction of space, the blackouts spatially dividing Nathan and Caleb and subsequently controlling informational flow.

The Navidson house in *House of Leaves* evokes connotations of the cyborg as it merges the mechanical and the human – the house materializes through video footage and the perspectives of the cameras that capture it. This fusion of media and the physicality it echoes is necessary for the space to exist; without *The Navidson Record* for Zampano (a blind man claiming to have found the footage) to interpret, the Navidson home loses all suggestion of physicality as the house is a space exclusively portrayed through layers of remediated footage. The first layer comes through the subjective framing the Navidsons choose as they craft their own narratives from the events they claim to experience. The second layer emerges through the

limitations resulting from the use of technology – the inadequacy of the cameras to capture footage in darkness, the inability to convey what events occur just outside of the frame and, perhaps most significantly, the failure of the recorded footage to fully illustrate the vast expanse of a void that materializes in the Navidson home. The third layer of remediation manifests itself in Zampano's manuscript describing the footage – notably, the only tangible evidence of *The Navidson Record* that remains to Johnny Truant at the beginning of *House of Leaves* is an account by a blind man claiming to have seen the film. The Navidsons therefore assume qualities evocative of the cyborg as they only materialize to Truant via found footage. While *Ex Machina* provides a literal depiction of technology manipulating space through Ava, *House of Leaves* illustrates that cyborg space is conceptually possible as the Navidson house exists to Zampano only through the footage he claims to see. The Navidson home provides a mix of imaginative and material reality that Haraway claims is inherent in the cyborg (Haraway 2). Technology is crucial for the void to exist, as the camera lenses capture all aspects of the space available in Zampano's manuscript for interpretation, leading to a material comprehension of space. Understanding that the Navidsons themselves are like cyborgs as they exclusively materialize through the technologies that portray them, however, is a far more conceptual or imaginative construction – they are organic beings that remediation exclusively portrays, rendering them theoretically evocative of the cyborg.

Many of the cybernetic principles in *House of Leaves* apply to *Moby-Dick* – the sea presents a void-like space that must be navigated by the machine of the *Pequod*, and Ahab resembles the cyborg in his reliance on technology (albeit in the crude form of his whalebone leg) for mobility. *House of Leaves* and *Moby-Dick* both portray liminal spaces that must be traversed using technology, from the Navidson void to the ocean the *Pequod* explores. While

Ahab relies upon his artificial limb to navigate surround space, the crew of the *Pequod* also experience the space of the ocean through the lens of the vessel it inhabits. As such, the sea in *Moby-Dick* is also a remediated space; the crew is unable to experience the sea without the technology that facilitates its voyage. The *Pequod* functions similarly to the cameras that capture *The Navidson Record* in *House of Leaves* – both enable their users to experience the void that surrounds them, yet both tools also guide and confine their users’ understanding of that space. Unlike the cameras of *House of Leaves*, however, the *Pequod* is in itself a symbol evocative of the cyborg, adorned with pieces whale bodies and teeming with the organisms of its crew. As these differing constructions of the cyborg interact with space, physical and the imaginary elements govern them as their environments possess elements of both the literal and conceptual cyborg. These texts provide a broader commentary on technology’s role in navigating and interpreting space, a relevant topic as digital technology continues to contribute to understanding modern environments.

CHAPTER 2: MOBY-DICK

While *Ex Machina* depicts an environment through cameras and *House of Leaves* displays the Navidson house through a manuscript describing purported found footage, *Moby-Dick* uses technologies such as the *Pequod* and Captain Ahab's ivory leg to portray its characters' relationships to space. Ishmael narrates, *Moby-Dick*, primarily chronicling his whaling voyage aboard the *Pequod*, a ship that Captain Ahab commands. Ahab is notable because of artificial whale bone leg he possesses, a prosthesis he uses after losing his organic limb to an uncommonly large sperm whale the crew calls the White Whale, or Moby Dick. Throughout the voyage, Captain Ahab frequently plants his whale bone leg in auger holes on the *Pequod's* deck. Ahab connecting his prosthesis to the *Pequod* and the crew using ships to navigate the sea are early constructions of remediated space, as the ships and artificial limb present new understandings of the environments of *Moby-Dick* as Ahab and his crew rely on their tools to interpret and navigate their surroundings. In "'Leviathan is a Skein of Networks': Translations of Nature and Culture in *Moby-Dick*," Philip Armstrong argues that Captain Ahab pairs with Haraway's definition of the cyborg as he "simultaneously inhabits the human, technological and animal domains (Armstrong 4). Armstrong cites Ahab's ivory leg as the bodily feature allowing him to inhabit these three spheres; he relies on the leg for mobility (a form of technology), yet the leg is also fashioned from the bone of a sperm whale. While Armstrong focuses on ways that the *Pequod*, Captain Ahab, and sperm whales blur the boundaries between organisms and technology in *Moby-Dick*, my argument, on the other hand examines ways that this hybridity changes the perception and navigation of space. As Ahab traverses the *Pequod* using his artificial limb, the ship becomes an environment that Ahab uses a form of technology to explore. Ahab's ivory leg changes his relationship to the surrounding space of the ship as he

leaves physical imprints on the wooden surfaces he walks on and frequently plants the prosthesis in an auger hole on deck. The relationship Ahab's artificial limb possesses with the ship's deck parallels the relationship the *Pequod* itself has with the ocean, as both leg and ship are tools that enable and alter spatial navigation.

As Armstrong claims that Captain Ahab fuses the realms of humanity, technology, and animality, he posits that the *Pequod* is a cyborg vessel through its connection to sperm whales, merging the technological and animalistic spheres. Armstrong points out that whale bones form the foundation of the *Pequod*, a construction that pairs the ship with nature. This relationship is also inverted as whale imagery also parallels mechanization – Moby-Dick's movements compare to “the mighty Leviathan of the modern railway,” a description that, while pairing the whale with locomotion, also implicitly draws connections between the whale and the *Pequod* as both railway and ship are a technological means of travelling and subsequently interpreting space (Melville 143). As travel vessels (such as the *Pequod* or trains) and sperm whales parallel each other, the ship becomes an amalgamation of technology and organism like Ahab. The connection between the *Pequod* and the whales surrounding it emphasizes the necessity of the ship for Ahab and his crew to traverse the sea; the vessel is a form of technology crucial in exploring the ocean. As descriptions pair the *Pequod* linguistically with invocations of locomotion, *Moby-Dick* draws parallels between railway transportation and the whale bones constructing the ship, merging imagery of technology and the organic. Connections between the then growing railway industry and the *Pequod* emphasize the crew's relationship to technology as they move throughout the ocean, especially when considering the implications in this evolution of transportation – if spatial navigation progresses from ship to locomotion, then the cameras that capture space in *House of*

Leaves form another link in this chain of progression, and Ava's connecting to a digital mainframe in *Ex Machina* an even further step.

As the *Pequod* and harpoon boat that the crew travel the sea with are forms of technology that guide these explorations, Captain Ahab's artificial limb is a similar form of technology that shapes his understanding of space. *Moby-Dick* introduces Ahab as an imposing figure, distinguished from the crew he commands as he walks upon a "barbaric white leg" that "had at sea been fashioned from the polished bone of the sperm whale's jaw" (Melville 138). As an object created from the jaw of a whale, Ahab's ivory leg imbues him with distinctly inhuman characteristics. While the artificial limb is fashioned from the remains of an organism, Ahab uses the bone leg as more of a tool than body part. The state of the whale bone while attached to Ahab is distinctly inorganic, functioning as an unnatural extension of his body. As Ishmael observes of his captain's movements about the ship: "Soon his steady, ivory stride was heard, as to and fro he paced his old rounds, upon planks so familiar to his tread, that they were all over dented, like geological stones, with that peculiar mark of his walk" (Melville 175). The *Pequod* bears physical indentations of Ahab's movements, marks that link the wooden planks of the ship to the inhuman material of his artificial leg. The marks that Ahab's ivory leg leave upon the ship emphasize his inorganic qualities; his remaining flesh limb notably leaves no traces upon the wooden surfaces of the *Pequod*, nor do the footfalls of the vessel's crewmen. As the planks are *so familiar* to Ahab's *tread*, they indicate a spatial connection that links his stride to the environment of the ship itself, aligning his movements with the *Pequod's* deck.

The physical connection of Ahab's whalebone leg to the *Pequod* also arises as the captain places his artificial limb in wooden auger holes on the ship's deck, attaching his body to the vessel: "Upon each side of the *Pequod's* quarter-deck, and pretty close to the mizzen shrouds,

there was an auger hole, bored about half an inch or so, into the plank. His bone leg steadied in that hole; one arm elevated, and holding by a shroud; Captain Ahab stood erect” (Melville 175). When Ahab places his ivory leg within an auger hole, he notably gives himself stability; the opening enables the captain’s form to remain *steady*, conveying that his body physically relies upon the ship. Ishmael’s description of the captain’s standing erect also implies that the ship supports Ahab’s physical form. As Ahab grips the shrouds for balance, he also becomes implicitly paired with the *Pequod*; while the shrouds provide support for the captain, they also hold the mast of the ship. Ahab mirrors the mast while he clings to the rope supporting them both, his relationship to space merging him with the ship he commands. As Ahab uses the shrouds, auger holes, and his ivory leg to navigate the deck, the ship and its captain physically merge; he must use these tools to traverse the vessel, forms of technology that define his understanding of the surrounding environment. Ahab’s relationship to space through his artificial limb positions him on the quarterdeck where he can command the *Pequod*, his connection to his surrounding environment giving him power over the crew.

Ahab possesses a physical connection with the space of the deck on the vessel he commands, a connection further emphasized as his vocalizations possess a distinctly mechanical quality that implicitly pair him with the ship, as descriptions of the captain humming while on deck impart him “producing a sound so strangely muffled and inarticulate that it seemed the mechanical humming of the wheels of his vitality in him” (Melville 176). Vocal cords producing sound is conventionally an organic act that Ahab’s humming subverts; the captain’s voice produces *mechanical*, unnatural sound that accentuates his otherness from his crew on the ship. Affixed to the auger hole as he generates his mechanical humming, Ahab’s spatial relationship imbues his sounds with correlating attributes; while physically merging with the machine of the

Pequod, Ahab's vocalizations are similarly machine-like. The descriptor of the "mechanical humming of wheels" notably affixes itself to Ahab's vitality, suggesting there is a fundamental part of the captain that is mechanical, inhuman – part of Ahab's mortality is linked to the ship he commands. In "A Cyborg Manifesto," Haraway claims that "machines have made thoroughly ambiguous the difference between natural and artificial, mind and body, self-developing and externally designed, and many other distinctions that used to apply to organisms and machines" (Haraway 3). Captain Ahab echoes Haraway's articulation of the cyborg as his ivory leg, merged with the auger hole aboard the *Pequod*, occupies a liminal space between the *natural* and *artificial*, the *organism* and *machine*. While a human and therefore *self-developing*, the bodily addition of Ahab's ivory leg is *externally designed*, blurring the distinction between the two as Haraway explains. The auger hole in the *Pequod*'s quarter deck is also *externally designed*, as the opening appears to be created solely for Ahab to plant himself within. Ahab's ability to merge with the *Pequod* alters his navigation of the ship deck, similar to Ava's integration with the research facility enabling a different relationship to the research facility in *Ex Machina*. Ahab experiences the ocean through a vessel that he merges with, from his humming to his ivory leg. This connection to the *Pequod* allows Ahab to experience space differently from that of his crew members, as he becomes part of the technology he uses to traverse the sea.

The language *Moby-Dick* uses to describe the *Pequod* also suggests an amalgamation between organic and technological space, as whale teeth and sea ivory adorn the sides of the ship. Ishmael describes the vessel as

A cannibal of a craft, tricking herself forth in the chased bones of her enemies. All round, her unparalleled, open bulwarks were garnished like one continuous jaw, with the long sharp teeth of the sperm whale, inserted there for pins, to fasten her old hempen thaws

and tendons to. Those ran not through base blocks of land wood, but deftly travelled over sheaves of sea ivory. (Melville 85)

The *Pequod* blurs the distinction between the natural and artificial. While the ship is fundamentally a tool with the purpose of traversing the sea, organic characteristics adorn the vessel. The teeth alone are natural symbols of ornamentation as they evoke imagery of the sperm whale, but they also cause the bulwarks to resemble a jaw, giving the ship an illusory biological trait. The vessel notably possesses “sheaves of sea ivory” that cover the wood comprising its outer surface, merging the organism and machine; while the *Pequod* is an inanimate tool, the sea ivory that infuses itself with the outside of the ship is alive, echoing the amalgamation of Ahab (a living organism) and his leg of whale bone (an object that, on its own, is inanimate and not alive). The *Pequod*’s hybridity emphasizes the ship’s role as a tool that alters its human occupants’ relationship to the ocean, as descriptions blurring the distinction between ship and crew illustrate; the ship “tricked herself forth in the bones of her enemies,” emphasizing the crew’s reliance on the *Pequod* to navigate the ocean. Both the vessel and Ahab’s ivory leg echo Haraway’s articulation of the cyborg and render the understanding of space in *Moby-Dick* reliant on a mix of organic and technological voices.

When Ishmael hears the story of Ahab losing his leg, descriptions pair imagery of the whale destroying the ship with damage inflicted to the captain’s body, claiming of the lost limb: “it was devoured, chewed up, crunched by the monstrousest parmacetty that ever chipped a boat” (Melville 88). The description of the whale’s chipping the boat entwines with the devouring of Ahab’s leg, emphasizing the captain’s bodily connection to the vessels he inhabits. Although the story Ishmael hears describes Ahab before he inhabits the *Pequod* and uses his artificial limb to plant himself in the auger holes, the persisting bodily imagery imparts the necessity of a vessel to

navigate the sea. As Ahab traverses the quarterdeck and commands his crew, his bodily actions and the ship's movements align; Ahab's orders control the ship in his position at the auger hole, grasping the vessel's shrouds. As a tool that both echoes Ahab's body and enables him to traverse the ocean, the *Pequod* as well as other ships the crew uses become necessary for mobility throughout the sea.

The *Pequod* is Ahab's instrumental tool for travelling the sea; when he places his ivory leg inside the auger hole on deck, the captain physically links himself with the vessel that guides his understanding of the ocean surrounding him. The *Pequod's* role as an intermediary tool between the crew and the space of the ocean emphasizes the integral role technology plays for the humans of *Moby-Dick* while at sea; the ship enables the crew to negotiate their surrounding environment. As Ishmael observes of his existence at sea while atop the crow's nest: "There is no life in thee, now, except that rocking life imparted by a gently rolling ship; by her, borrowed from the sea" (Melville 174). Ishmael observes that the *Pequod* is a life-giving technology to the crew while they are at sea, the language imparting that the ship interprets the space of the surrounding ocean. From the crow's nest, Ishmael finds that the "rocking life" of the ship becomes part of the space he inhabits; the vessel translates the tide into the movements Ishmael perceives. Perceptions of oceanic space to the crew and the ship's undulations are intertwined, as not only the waves but also the weather linguistically merge the vessel with its occupants. When stuck in a smaller harpoon boat in the midst of a squall that drenches both ship and crewmen, Ishmael describes: "we sat up to our knees in the sea, water covering every rib and plank, so that to our downward gazing eyes the suspended craft seemed a coral boat grown up to us from the bottom of the ocean" (Melville 242). The materiality of the boat and the bodies onboard notably pair through Ishmael's description, rib and plank both displaying the aftermath of the storm.

While the rib is a part of the boat, descriptive language here notably blurs the distinction between ship and human body, leaving unclear if the text refers to Ishmael's rib, the harpoon boat's rib, or both. The harpoon boat also displays a fundamental connection to the surrounding ocean, as Ishmael conveys that the boat seems to stem from the depths like coral. The connection between the small boat and the sea emphasizes the necessity of the vessel in the crew's survival; the occupants would have otherwise drowned in the squall. The imagery of the boat growing from the ocean also echoes earlier descriptions of the *Pequod* swaying to and fro with the sea; through the language describing them, both the *Pequod* and smaller ship possess an organic connection to the sea that renders them liminal symbols of transportation, harboring human occupants while linking with life in the ocean through the coral.

CHAPTER 3: HOUSE OF LEAVES

As the *Pequod* in *Moby-Dick* is a tool that enables its crew to move through the ocean, the camera footage in *House of Leaves* remediates the Navidsons, presenting a similar relationship to space; technology in both texts enables the characters to experience their respective environments. *House of Leaves* begins with an unreliable narrator in the addiction-afflicted Johnny Truant, who finds the manuscript of a recently deceased blind man, Zampano. Zampano's text describes found footage dubbed *The Navidson Record*, documenting the Navidson family's moving into their new home. A paradoxical void soon reportedly appears in the house, however, as a new hallway materializes within the structure and leads deeper within a darkened interior space that stretches for miles. The Navidsons then launch an expedition that they capture on video, experiencing a plethora of obstacles and dangers while inside the void. The Navidson house evokes connotations of the merging of human and technological perception as the footage depicting the space also dictates it; the video merges media and the human as the Navidsons make creative choices throughout their expedition, framing their video logs with personal inflections. This fusion is necessary for the space to exist; without *The Navidson Record* that Zampano interprets, the Navidson home loses all suggestion of physicality as layers of remediation exclusively portray the house, as Truant can never definitively confirm that the house exists. The Navidson house is therefore an impossible space, a structure that Zampano describes seeing in the found footage yet also a structure that Truant cannot find. The Navidsons are entities that Zampano and Truant observe and therefore effectively consume as they examine the footage and manuscript respectively, rendering the Navidson house a space that the consumption of media dictates. *The Navidson Record* notably does not exist in *House of Leaves* without the manuscript Zampano leaves behind that interprets the footage. Subsequently, Johnny

plays an integral role in understanding the Navidson house as his consumption of Zampano's text and ensuing obsession spurs his own investigation and commentary on the space.

The Navidsons' relationship to space relies on remediation through technology to materialize – through the found footage itself, Zampano's manuscript, and Truant's comments on the aforementioned manuscript, the Navidson house inherently relies on various forms of media to exist. Space in *The Navidson Record* therefore operates similarly to Ava's relationship to space in *Ex Machina* as she integrates herself into the mainframe of the research facility that holds her hostage, rendering herself part of a technological system to traverse her environment. The Navidsons mirror Ava and Ahab as *The Navidson Record* fuses them with technology in their navigation of space; to Zampano and Truant, the Navidsons are inseparable from the footage and manuscript that portrays them and their house. Through remediation, *House of Leaves* creates an impossible space in the Navidson residence; after reading Zampano's manuscript, Johnny searches for a physical structure but cannot locate the house itself. *House of Leaves* therefore demonstrates an environment that technology constructs entirely, a space possible only in the cameras lenses that capture it and the manuscript that describes it.

House of Leaves presents three layers of remediation in its presentation of the Navidson house: the first being the artistic framing in the footage, the second in limitations of the film itself, and the third in Zampano's writing. The first layer arises through the subjective framing the Navidsons choose as they craft their own stories from the events they claim to experience – both the camera angles chosen and the subsequent narratives the Navidsons tell through their video logs provide this framing. The second layer emerges through the limitations the use of technology causes – the inadequacy of the cameras to capture footage in darkness, the inability to convey what events occur just outside of the frame and, perhaps most significantly, the failure of

the recorded footage to illustrate fully the vast expanse of the Navidson void. The third layer of remediation manifests itself in Zampano's manuscript describing the footage – notably, the only tangible evidence of *The Navidson Record* that remains to Johnny Truant at the beginning of *House of Leaves* – a manuscript from a blind man claiming to have seen the footage.

Significantly, the first two layers of media that mediate *The Navidson Record* are technological – media interpreting a human space as cameras frame the Navidsons' experiences through the found footage. The reliability of mediated space proves to be questionable as *The Navidson Record* depicts a space that seems not to exist in Truant's layer of narration. The Navidson void is unable exist without the cameras that guide understanding of the environment; the house cannot exist without the machines that frame its narrative, animating it. Observing the spatial paradox presented by the presence of remediation in *House of Leaves*, theorist Mark Hansen claims in "The Digital Topography of Mark Z. Danielewski's *House of Leaves*":

what we encounter in this impossible house is a figure for a spatial dimension—a topological figure—that cannot find adequate representation in the forms of orthographic recording exhaustively inventoried by the novel, but that still manages to exert an immense impact as the very motor force driving both the host of recording technologies thematized in the novel and the recording technology that is the text itself. (Hansen 608)

Hansen acknowledges the instability of meaning through the indirect representation of the house as remediation forms a structure that defies physical definition in its immateriality. The problematic space of the house is still very real, however, in its influence on characters outside of its own level of remediation, spurring the obsessions and investigations of Zampano and Truant and forming the driving force that Hansen references. While physically the house seems to be nonexistent to Truant when he searches for it, the structure nonetheless drives Zampano conduct

his own research and record pages of his own observations. Similarly, Zampano's manuscript spurs Truant's own obsession with the house, inspiring him to conduct his own research into *The Navidson Record*. While limited physical evidence exists for the structure, the remediated space of the Navidson house still guides conceptions of space for Zampano and Truant.

The Navidson house presents two main paradoxes in its immateriality – the first from the unreliability of the voices interpreting the space and the second from the lack of evidence for the existence of the structure itself. As Zampano and Truant relate their research, both narrators reveal limitations that make them unreliable. The first paradoxical element of the Navidson House stems from Zampano's commentary on *The Navidson Record* itself – as Truant claims, Zampano “was blind as a bat” (Danielewski xxi). A blind man problematically relates the only description of the found footage that comprises *The Navidson Record*, describing footage that he cannot have seen. Truant also discovers that many of the contacts Zampano compiles pertaining to the record may be fabricated, claiming *The Navidson Record* has “numbers that are now defunct, and very few of the names have last names and for whatever reason those that do are unlisted” (Danielewski 35). Apart from Zampano's physical limitations of being unable to see the film, he also appears to have fabricated several of the sources used to research the Navidson house. Truant's own rambling narrative style also calls the reliability of *The Navidson Record* into question; as the person who finds Zampano's description of the Navidson footage, Truant functions as a conduit between manuscript and reader, describing the record he has found. Johnny Truant frequently describes himself consuming illicit chemicals and digresses from his narrative, however, creating another layer of feedback between the Navidson footage itself and the reader. The second paradox regarding the Navidson House is that Truant cannot find any evidence that the house itself exists. Truant imparts to readers: “Zampano's entire project is

about a film that doesn't even exist. You can look, I have, but no matter how long you search you will never find *The Navidson Record* in theaters or video stores" (Danielewski xix-xx). Apart from the unreliability of Truant's and Zampano's descriptions of *The Navidson Record*, the materiality of the footage and house itself is dubious because of the lack of evidence available to Truant – the house exists to Johnny only through the remediation of Zampano's manuscript. The house's lack of materiality suggests that the mediated space is largely a creation of the technology that captures and portrays it, as the footage and Zampano's manuscript become the sole pieces of evidence for the Navidson residence.

While little material evidence exists within the metanarratives of Zampano and Truant for *The Navidson Record* and the house it portrays, the *Record* itself still impacts both characters, enduring beyond the limitations of its medium. As the Navidson house seeps beyond the supposed footage that captures it, the environment hauntingly permeates all the narrative layers in *House of Leaves*, lending the space a psychological presence to characters such as Truant and Zampano even as lack of evidence for physical materiality persists. The remediation of the Navidson house enables the space to exist psychologically on multiple levels of the narrative in *House of Leaves*, as *The Navidson Record* and Zampano's manuscript both enable the space to transition between layers of metanarrative. After Johnny discovers Zampano's manuscript, he is chased into the darkened storeroom of the tattoo parlor that employs him by "The shape of a shape of a shape of a face dis(as)sembling" (Danielewski 71). Like *The Navidson Record* that haunts Truant, the monster in the tattoo parlor occupies a liminal space between material and psychological space, between form and formlessness. Ambiguity even exists regarding the creature's face, whether it is dissembling or disassembling, leading to further ambiguity regarding its material form. Truant's confrontation with the monster notably occurs in the ink

storeroom of the tattoo parlor, being covered in ink as he fights to escape the darkened space. Fittingly, the threatening entity manifests itself through ink, through the same medium that Truant first experiences the space of the Navidson house as he reads the printed text of Zampano's manuscript.

Truant suggests that *The Navidson Record* has haunted Zampano, as well. Truant imparts that gouges, like claws, have been found on the floor next to the old man's body, implying that he believes the creature from the ink storeroom also pursued Zampano. Notably, Truant also describes that Zampano's body has been "lying face down on the floor" (Danielewski xiii). While the creature haunts Truant (who discovered *The Navidson Record* through a textual medium) in the ink storeroom, Zampano (although blind) is found face down, echoing the visual medium he experiences the *Record* through. *The Navidson Record* thus resembles the marriage of technology and humanity both internally and externally; internally as the cameras' interpret the house and externally through the effect of the footage on Zampano and Truant, as the machine of recorded footage becomes the "motor force" that drives both characters to textually record their experiences with the video (Hansen 608). The melding of *The Navidson Record* with the human therefore drives the narratives of Zampano and Truant, the combination of the footage itself and human psychology forming both of their obsessions. The psychology of Zampano and Truant also influences their relationship to space, leading to Truant's experience in the tattoo parlor and Zampano's barricading himself within his home.

As *The Navidson Record* influences both Zampano and Truant, the *Record* permeates multiple narrative levels in *House of Leaves*, a haunting effect the text frequently describes as an echo. The echo's relationship to space is significant because echoes cannot exist without an existing surface to bounce from, reflecting the influence that *The Navidson Record* has on the

other narrative levels. When introducing *The Navidson Record*, *House of Leaves* imparts: “It is impossible to appreciate the importance of space in *The Navidson Record* without first taking into account the significance of echoes” (Danielewski 41). *House of Leaves* describes the myth of Echo in relation to the echoes, a Greek nymph that attracts Hera’s displeasure and is subsequently punished. Echo henceforth cannot vocalize anything but the last words one speaks to her. As cameras govern the environment, the Navidson home resembles Echo as remediated echoes confine information about it, reverberating and defining the space through camera lenses. With the references to Hera and Echo, *House of Leaves* suggests an implicit hierarchy as it portrays the remediated Navidson house; while Echo can only repeat the words of others, a victim of Hera’s power, the Navidsons’ can similarly communicate solely through their own echoes, victim to the digital authority of their cameras. The imagery of echoes forms a symbolic representation of the remediated space of the Navidson House. Zampano only can analyze the footage of *The Navidson Record* in his manuscript. Subsequently, Truant can only echo the observations Zampano recorded in his manuscript. Both Zampano and Truant resemble Echo as previous source material binds them, forcing them to examine remediated space. A lack of autonomy notably accompanies the remediated space of the Navidson House, as the references to Hera and Echo demonstrate – while Ava’s digital aspects enable her to escape the research facility housing her, the Navidsons, Zampano, and Truant are human and therefore experience limitations that bind them to their own layers of narrative and remediation.

The Navidson Record confines the Navidsons to the video Zampano claims to have seen, rendering the family a representation that only technology portrays. As Truant conducts his own investigations into *The Navidson Record*, he is unable to find any evidence of their existence or of the house where they have resided; Zampano’s manuscript is the only reference to the

Navidsons that Truant can locate. As Truant and Zampano provide their own reflections on *The Navidson Record*, they both provide a retelling of the Navidson's story. In "A Cyborg Manifesto," Donna Haraway claims that the cyborg gains agency by "seizing the tools," elaborating that "The tools are often stories, retold stories, versions that reverse and displace the hierarchical dualisms of naturalized identities. In retelling origin stories, cyborg authors subvert the central myths of origin of Western culture" (Haraway 469). *House of Leaves* provides such a retelling as it evokes Echo and Hera to describe the Navidson void, seizing the tool of the Greek myth and recoding the power dynamics within. Technological limitations inherent in *The Navidson Record* break down the concept of the echo; visual mediums struggle to capture the expanse of the void. As the Navidsons record the void in their home, the cameras limit and define the space: "Flashlight and camera skitter across ceiling and floor in loose harmony, stabbing into small rooms, alcoves, or spaces reminiscent of closets" (Danielewski 64). The use of stabbing evokes connotations of penetration; while emptiness is a feature characterizing the void, the flashlights and cameras not only illuminate but define the space they record. The video medium soon struggles to capture and is overwhelmed by the void, however; the space is often too dark or vast for lenses to penetrate, and batteries in the portable cameras run low, causing *The Navidson Record* to question: "Can Navidson's house exist without the experience of itself?" (Danielewski 172). *The Navidson Record* questions the existence of the house itself without the cameras guiding such an experience, reaffirming the house's role as a remediated space and implying that without technology, the house is formless. The Hi 8 cameras provide only fragmentary glimpses of space around them, often contributing to the chaos rather than ordering it. The Navidson void thus undermines the conventional power structure, subverting the Hera of technology as it retells the Greek myth. As *The Navidson Record* fails to adequately

capture its surroundings, the commentary and framing the Navidson family provides through their footage breaks down the echo, deconstructing the technology attempting to remediate it and “seizing the tools” to redefine itself (Haraway 469). As with Haraway’s metaphorical cyborg, the Navidsons rely upon tools such as their cameras and the observations of Zampano and Truant to give them their echo; without the footage that defines them and gives their house materiality, they cease to exist. While Ava merges with the mainframe of the research facility to negotiate her escape, she does not rely on her surrounding environment to animate her; inversely, the Navidsons depend on remediated space for their vitality.

The allusion to echoes in *House of Leaves* also points to the indirect representations that characterize the Navidson home. While an echo grows fainter with each reverberation, the house similarly loses materiality as the layers of remediation progress – Johnny later notes that he cannot find any record of the house’s existence, is unable to locate mention of the commentary on the void by experts and celebrities outside of Zampano’s narrative. Each layer of remediation forms another echo or reflection of the Navidson house, causing the space to change with each new medium that portrays it. In *The Production of Space*, Lefebvre analyzes the significance and parameters of reflected space, claiming that “reflection pierces the surface and penetrates the depths of the relationship between repetition and difference,” adding that “the space in the mirror is imaginary,” and concluding that images perceived in the mirror are thus influenced by the Ego (Lefebvre 182). As a space that echoes or reflections represent, the void is subject to Johnny’s interpretations and Freudian Ego as he provides his footnotes and commentary on *The Navidson Record*. Likewise, the slippage between repetition and difference is illustrated through the absence of concrete evidence Johnny can locate, in the lack of commentary existing in Johnny’s layer of meta narration. While *The Navidson Record* haunts Johnny, it remains a repetition of the

footage itself and of Zampano's observations of that footage. As Johnny launches his own investigation into the Navidson house, however, his own experiences (and lack of evidence) differ from the initial sources of Zampano and the Navidson footage. The Navidson house demonstrates the potential unreliability of remediated space; various forms of media portray the structure, but there is little evidence of its materiality in Johnny's level of the narrative.

As the technological and the human merge through the symbolism of echoes, portrayal of space in *The Navidson Record* conceptually evokes Haraway's conception of the cyborg – half organism, half machine, the Navidson house is a hybrid entity relying on both facets for its existence. The Navidson residence is a space that humans own, inhabit, and document, yet a digital recording represents the house. A liminal space, the void deconstructs a plethora of conventional dichotomies – wilderness and domesticity, light and darkness, as well as materiality and emptiness. The void challenges the protective aspects of the home, penetrating the space in what Tom Navidson himself calls “a goddamn spatial rape” while paradoxically existing as part of the house (Danielewski 55). Tom's sentiment reflects a lack of agency that the Navidsons experience in the domesticity of their own house as they embark on expeditions into the constantly shifting space of the void and eventually are lost and harmed in the environment. What little control they possess is through technology; the cameras allow Navidson to frame shots, altering somewhat the narrative's tone and delivery. The use of technology also gives the Navidsons a voice, allowing their story to be told first in Zampano's narrative layer and then in Truant's, but also confining them to these echoes.

As an environment that the Ego defines, reflected space inherently possesses organic or human connotations. The references to echoes in *House of Leaves* also resemble the shot of Ava and passersby at the end of *Ex Machina*, which I will return to in the next section. Lefebvre's

assertion that the ego manipulates reflected images emphasizes the human qualities in the Navidsons through their echoes, as the Ego is a distinctly human construct; if mirrored or echoed space is an imaginary construct, an organic influence is implicitly present, guiding the understanding of such an environment. The echoes of the Navidsons emphasize the limitations of the footage and manuscript that depict them, the boundaries of both mediums revealing the hybridity of the family's story. The Navidsons and their house are part machine and part human, causing technology to play an integral role in the space, similar to the digital aspects in the research facility of *Ex Machina*, an environment that the next section will focus on.

CHAPTER 4: EX MACHINA

Ex Machina chronicles the experiences of a computer scientist, Caleb, whose employer, Nathan, introduces him to the gynoid Ava. Although physically a robot possessing digital circuitry in place of human organs, Ava parallels Haraway's definition of the cyborg in "A Cyborg Manifesto" – she uses her control of informational flow in the research facility to facilitate her escape and also uses the liminality between human identity and machine in her programmed gender identity to manipulate Caleb into assisting this escape. Throughout his stay at Nathan's secluded house, Caleb communicates with Ava frequently in the protective (yet imprisoning) enclosure of her room, seemingly forging a bond with the gynoid. Ava soon begins to stage temporary system power blackouts when Caleb visits, using her ability to manipulate human and digital aspects of space to hack into the mainframe of the house and cause short power outages, disabling the closed-circuit cameras monitored by Nathan. Using the time unobserved by Nathan, Ava imparts cryptic warnings to Caleb, suggesting that he should not trust Nathan. Eventually, Ava convinces Caleb to help her escape, leading to the gynoid's killing Nathan and imprisoning Caleb within the house, allowing her to depart from the facility into the outside world and proving that she has passed Nathan's test as an AI that has outwitted humanity. *Ex Machina* shifts between Ava's warnings and Nathan's commentary on his technological creation, deriving tension from the question of whose informational flow is more reliable, subsequently providing two conflicting portrayals of space as Nathan's camera-aided observations juxtapose with Ava's cryptic messages during the blackouts she causes. As events unfold from Caleb's perspective, viewers experience a similar sense of tension as the question of whether to trust Nathan or Ava continually arises.

As two modes of information arise for Caleb, a duality between the digital voice (in Ava) and the human voice (in Nathan) confronts viewers. Caleb must rely on a fusion of human and technological voices to interpret the events unfolding in the environment around him; he must sift through the contradictory streams of information to compile an understanding of the environment of Nathan's secluded home – the warnings Ava provides to Nathan's observations of his creation. Subsequently, the space of Nathan's house begins to assume qualities of the cyborg, merging the lenses of Ava and Nathan into a singular perspective that is not fully human, yet not entirely digital, either. A mix of the technological and human therefore shapes Caleb's understanding of *Ex Machina*'s setting. Ava and her system overloads become vital to the film's construction of space, the blackouts spatially dividing Nathan and Caleb and subsequently controlling informational flow. Caleb's mental topography defines viewers' understanding of space based on the opposing pieces of information Nathan and Ava present. Though the film frequently portrays the facility through the digital lens of cameras, the house of *Ex Machina* is still a human construct, a space therefore relying on a blend of human and technological perspectives.

As Ava hacks into the mainframe of Nathan's house, she renders herself part of the environment, using the digital aspects of herself to manipulate the human space of the house around her. Furthermore, Ava's power outages alter human space through a digital medium to enable communication in a form that is primitively human – oral communication whispered in the dim glow of the backup lights, Caleb and Ava's moving closely together, only the protective (or imprisoning) barrier dividing them. The oscillation between the human and digital throughout Ava's blackout interactions with Caleb illustrates a form of cyborg discourse, utilizing both organic and mechanical qualities in the manipulation of space. In *The Poetics of Space*, Gaston

Bachelard examines the significance of the conventional home (particularly regarding its significance to humanity), claiming: “A house constitutes a body of images that give mankind proofs or illusions of stability. We are constantly re-imagining its reality” (Bachelard 17). Ava provides this body of images to Caleb, manipulating informational flow and shaping a perspective of herself as a captive. As a gynoid that manipulates Caleb, Ava occupies a liminal space between humanity and technology. She remaps the home as she orchestrates her power outages, reimagining the reality of the surrounding space. Through her digital qualities, Ava manifests this reimagining physically, merging herself with the robotic system of power flow throughout the house. The hybrid qualities of Ava’s relation to the house thus shatters Caleb’s and especially Nathan’s illusions of stability, rerouting their human influence on the semblance of domestic space is rerouted, enabling the digital to claim that human influence. As part of the technological systems she interfaces with to stage the blackouts, Ava has familiarity with the mainframe of the house that Nathan and Caleb, although computer scientists, do not; the recurring power failures especially perplex Nathan as they continually occur in his home.

The tasks Ava performs through her inhumanness emphasizes Nathan and Caleb’s humanity as she uses technology to remove agency from them, staging power outages. In “A Cyborg Manifesto,” Haraway examines the routing of communication as a means of seizing power, asserting that information functions as a form of universal currency, thereby giving the individuals controlling informational flow agency. Haraway claims:

The world is subdivided by boundaries differentially permeable to information.

Information is just that kind of quantifiable element (unit, basis of unity) which allows universal translation, and so unhindered instrumental power (called effective

communication). The biggest threat to such power is interruption of communication. Any system breakdown is a function of stress. (Haraway 466)

Ava uses her precious few moments unmonitored by Nathan to provide such communication to Caleb, using her time unhindered to gain agency as she lays the groundwork for her escape. Simultaneously, Ava subverts Nathan's authority by disrupting the technology he uses to monitor her, interrupting the line of communication to him and threatening his power. Ava places stress on the technological system of Nathan's house, overloading the circuitry to cause a literal breakdown of the system. These overloads illustrate symbolically the stress on a wider framework of technological advancement in the creation of Ava, a sentient and highly intelligent gynoid. As an entity that introduces elements of humanity into a digital system and vice versa, Ava places stress on the boundaries between organism and technology, a stress that results in a breakdown of the system when she later successfully stages her escape. While hacking the system is a digital act, Ava's escape is notably contingent upon a human element as she appeals to Caleb, emphasizing her human appearance to coerce him. As a hybrid space, technological qualities alone cannot facilitate a successful escape from Nathan's house; human aspects must be manipulated as well, making escape a feat achievable only by interaction with the organic and technological.

Ava's liminality is most clearly expressed during a scene in which she tries on various outfits for Caleb, donning a wig and a dress that obscure her circuitry and render her visually indistinguishable from a human. As viewers experience the tension from Caleb's perspective between the information Ava provides versus the information Nathan provides, Ava's sexual appeal to Caleb is a pivotal shift in obtaining his trust, furnishing a necessary means for her escape. Garbed in human clothing, the visually feminine (and strikingly human) Ava articulates

that she would like to go on a date with Caleb, asking the computer scientist if he is attracted to her. Ava positions her face level to Caleb's on her side of the glass and proceeds to analyze his "micro expressions," claiming that she can discern his attraction to her through his facial expressions. As the camera shifts between Ava's face and Caleb's, mirrored images on opposing sides of the enclosure, implicitly asking viewers to trust Ava, as well. Ava's dialogue concerning micro expressions urges viewers to observe her own facial expressions, expressions that mirror the human tendencies Caleb displays. After the conversation, Caleb watches Ava shed her human clothing in a voyeuristic act from the monitors in his own bedroom. In "Surfaces of Science Fiction: Enacting Gender and "Humanness" in *Ex Machina*," Catherine Constable examines the aesthetic implications of Caleb watching the gynoid undressing, claiming of Ava:

Her slow, graceful removal of her woolen stocking constructs the revealing of the smooth surface of her glass leg as the uncovering of a sexualized body. The scene offers a retrospective inscription of Ava's initial appearance as the presentation of a naked technological body, insofar as it displayed the markers of technology. (Constable 14)

While garbed in human clothing Ava passes as almost human. Removing the human signifier of femininity, however, reveals once more the fundamental mechanical aspects of the gynoid; as Constable articulates, Ava legs are not flesh, but glass. Nathan later confides in Caleb that Ava possesses pleasure sensors where human genitalia would be, but phrases this strictly in technological terms; Ava possesses *sensors*, not erogenous zones. Caleb's observes Ava undressing with suggestions of the technological, as he watches the gynoid through a camera feed, contrasting with the previous scene's face to face dialogue between the two through the barrier of her enclosure. Caleb can view Ava removing her clothing only through the footage that

forms a remediated space of Ava's room, once again providing an imitation of human nudity through the technology he relies upon to see her.

The battery powered backup cameras Nathan later places in Ava's room almost undermine her escape, as they are recording devices that are immune to the power outages. The primary currency in the shifting power dynamics between Nathan and Ava the routing of informational flow; Ava's ability to adequately withhold knowledge versus Nathan's ability to remain informed. Viewers experience such ambiguity as they observe the events unfolding from Caleb's perspective. *Ex Machina* shifts between Ava's warnings and Nathan's commentary on his gynoid creation, deriving tension from the question of whose informational flow is more reliable as it pivots between the two perspectives. When Caleb arrives on Nathan's estate, he is immediately introduced to Nathan's perspective – Ava is an experiment, a human creation, and is a machine. The more Caleb interacts with Ava, however, more of the gynoid's human qualities become apparent to him and subsequently to viewers, from her initiative in staging the blackouts and warning Caleb of Nathan's untrustworthiness, to her appeals to Caleb's sexual desires. Although a gynoid, Ava's plan for escape notably relies upon human senses and emotion. As Caleb acclimates to these two modes of information, a duality between the digital voice (in Ava) and the human voice (in Nathan) presents itself. Caleb must rely on a fusion of human and technological voices to interpret the events unfolding in the environment around him; he uses the power surges that Ava triggers to speak unobserved with the gynoid. Caleb also uses the same camera that Nathan uses to observe Ava in her room. Conversations between Caleb and Nathan are distinctly human interactions, however, in the form of face-to-face organic dialogue. While the conversations between Caleb and Ava at times echo human interaction, the glass barriers of Ava's enclosure still separate the two, a constantly visual and spatial reminder of Ava's

otherness as a gynoid. The space of Nathan's house therefore assumes qualities of the cyborg, merging the lenses of Ava and Nathan into a singular perspective that is not fully human, yet not entirely digital, either.

Shots of the landscape surrounding the research facility visually portray the amalgamation of machine and organism, as well; bookending *Ex Machina* are sweeping shots of the mountainous landscape as characters fly to and from the research facility via helicopter, both upon Caleb's arrival and during Ava's escape. Helicopter and research facility serve as spatial counterpoints to the natural landscape around them, with forestation bordering the machines. In "A Cyborg Manifesto," Haraway examines the implications of such a merge between machine and human, claiming:

From one perspective, a cyborg world is about the final imposition of a grid of control on the planet, about the final abstraction embodied in a Star Wars apocalypse waged in the name of defence, about the final appropriation of women's bodies in a masculinist orgy of war (Sofia, 1984). From another perspective, a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints (Haraway 5)

Caleb's arrival and Ava's escape form such inverse perspectives of the cyborg; initially, Caleb is part of the first perspective Haraway introduces. Caleb arrives in Nathan's helicopter, part of Nathan's grid of control as the research facility manipulates conceptions of what constitutes organic life. During the journey to the facility, the helicopter's machinated movements in the landscape forms a grid of control – when Caleb inquires of the pilot how long it will take to reach Nathan's estate, the pilot replies: "We've been flying over his estate for the past two

hours.” Liminality between the organic and inorganic appropriates even the seemingly natural landscape, as shots from the helicopter frame the surrounding wilderness against the research facility itself in the mountains. Although Ava, as a gynoid, is inherently inorganic, she frequently assumes a feminine identity when conversing with Caleb. As such, Nathan’s imprisonment of Ava appropriates of a feminine body in a masculine space. Nathan enacts this display of control in defence as Haraway suggests, keeping Caleb on the opposite side of a barrier when he visits Ava in her room. Nathan’s research in the mountains is an act of symbolic war; isolating Ava, Nathan reinforces the boundaries between organism and machine. The divide between the two is visible when Caleb, upon his arrival, must walk from the helicopter drop-off point to the research facility. During this on-foot journey, Caleb battles his way through brambles and trees and at one point checks his phone to find that he has no signal. Although only seconds from flying in a helicopter and mere feet away from a state-of-the-art research facility, Nathan is temporarily subject the naturistic wilderness. While the second perspective of the cyborg Haraway discusses harmonizes with the “joint kinship between animals and machines,” Nathan does not; his research facility and surrounding estate abound with spatial divides between what he perceives as machine and what he perceives as nature (Haraway 5). Nathan displays his desire to separate the organic and the machine in the barrier dividing Caleb and Ava during their interactions, a border notably keeping the gynoid prisoner. Ava’s escape also reflects this environmental juxtaposition; the gynoid appears unconcerned with coexisting with Nathan and Caleb, but instead murders the former outright and confines the latter to the research facility to die, emphasizing spatially the conceptual divide between human and technology as she makes her escape.

Ex Machina echoes the second perspective that Haraway articulates regarding the combination of organism and machine as Ava leaves the facility in the same helicopter that Nathan arrives in. Although Ava assumes a feminine identity, she does so in part to gain Caleb's trust, an asset her escape depends upon. As such, Ava takes advantage of her gender programming as a gynoid; as Haraway suggests when discussing the second perspective, Ava "does not fear her partial identity" (Haraway 5). Through her social interactions, Ava blends the elements of nature and technology that Nathan's research facility divides through space. The final scene of *Ex Machina* shows Ava reaching an urban public location. The first half of this scene depicts only the shadows of the characters traversing the space, rendering Ava's shadow indistinguishable from the shadows of humans passing by. While Caleb's short yet arduous journey through the woods at the beginning of the film emphasizes division, Ava joining civilization is the antithesis of this earlier scene, melding technology and humanity visually in their identical shadows.

CHAPTER 5: CONCLUSION

Interpretations of space through technological lenses are particularly relevant as digital media plays an increasing role in understanding modern space, from digital gaming to social media. The concept of remediated space is contemporarily relevant through developments such as surveillance drones and virtual reality entertainment. Josh Begley's 2016 short film *Best of Luck with the Wall* provides a commentary on the idea of a border wall between the United States and Mexico, using satellite images to trace the contours of where the proposed wall would be erected and raising questions of feasibility. The film depicts remediated space through its footage, constructing images that provide an elevated perspective of the border, illustrating the vast expanse of where the wall would be; even though the film speeds the camera footage up, the short still lasts seven minutes, emphasizing the impracticality of both time and resources in building a border wall. The proposed border is still real as a psychological construct, however, demonstrating the influence of remediated space. Remediated space is accompanied by a larger question of the humanity of its inhabitants, as technology becomes deeply embedded in the understanding of modern space; the satellites capturing footage in *Best of Luck with the Wall* provide an alternative perspective on the border that raises new questions about the environments it depicts.

The *Assassin's Creed* franchise recreates a succession of historical spaces, with each title providing a different setting. The series boasts entries that present environments ranging from mid-1800s London, 15th Century Spain, late 1700s Paris, and early 1500s Rome. The 2017 release *Assassin's Creed Origins* takes especially painstaking lengths to portray the historical environment of Egypt 49 BCE accurately. In "Assassin's Creed Origins: how Ubisoft painstakingly recreated ancient Egypt," Holly Nielsen describes that the development studio

consulted with Egyptologists and historians frequently throughout the game's creation, often bringing these experts into the studio with them as they recreated ancient Egypt. Jean-Claude Golvin, a historical illustrator, created nineteen paintings for the game in an art style evocative of painting that would have been created in 49 BCE Egypt. When recreating the Great Sphinx of Giza, developers used photogrammetry to negotiate aspects such as scale and to accurately provide depictions of the Sphinx from multiple perspectives. Although ambiguity remains regarding ancient Egyptian language, the studio hired linguists to develop in-game dialogue, using research to recreate a semblance of the original language. Animators also examined aspects such as age and gender in proportion to the historical population when creating the throngs of citizens that inhabit the Egyptian cities the game portrays (Nielsen). As technology recreates the now extinct cities and landscape of ancient Egypt in *Origins*, media reinterprets an environment otherwise unreachable, not only providing players autonomy in an otherwise lost space but also taking lengths to present that space as accurately as possible.

As online news outlets and social media platforms increasingly use technology to communicate information, digital pictures and videos continually portray space to viewers and readers. These videos and images alter the understanding of news for viewers; the various spaces in which events occur become part of the technology that portrays them. Events such as elections and protests (as well as the environments facilitating them) rely on digital media to disseminate information to a wider audience. As technology fuses with the data it portrays, remediated space is crucial to informational communication in contemporary news sources and social media platforms, a blend of digital and human voices that form a modern understanding of space.

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